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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,000	04/06/2004	David J. Stabile	MOTP103US	2999

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EXAMINER	
HOFFBERG, ROBERT JOSEPH	

ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/709,000	STABILE ET AL.	
	Examiner	Art Unit	
	Robert J. Hoffberg	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/15/2004 7/16/2004*
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2, 7, 13-14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prager et al. (US 4,288,839) in view of Sloan (US 4,502,090).

With respect to Claim 1, Prager et al. teaches a heat sink assembly within a housing (Fig. 3, #41, external heat dissipating surface), comprising: a bracket (Fig. 3, #20) mounted to an interior surface of said housing; a heat-containing element (Fig. 3, #22); and, a self-tapping screw (Fig. 3, #30, Col. 4, lines 46-47) threaded into said bracket, engaging said heat-containing element, and urging said element against said bracket. Murphy et al. fails to teach a potted housing. Sloan teaches a potted housing (Fig. 1, #26). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat sink assembly within a potted housing of Prager et al. with that of Sloan for the purpose of having an environmentally sealed housing.

With respect to Claim 2, Prager et al. further teaches wherein said heat-containing element further comprises a heat sink (Fig. 3, #36); and, wherein said self-tapping screw is operatively arranged to urge said heat sink against said bracket.

With respect to Claim 7, Prager et al. further teaches wherein said bracket is connected to said interior surface (see Fig. 3) with a fastener (Fig. 3, #43) selected from the group including rivets and threaded fasteners (Col. 6, lines 29-30).

Regarding method claims 13-14 and 19, the method steps recited in the claims are inherently necessitated by the device structure as taught by Prager et al. in view of Sloan.

3. Claims 3-5 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prager et al. (US 4,288,839) in view of Sloan (US 4,502,090) as applied to the above claims, and further in view of Murphy et al. (US 5,504,653).

With respect to Claim 3, Prager et al. in view of Sloan teach the heat sink assembly in the above claims. They fail to teach the printed circuit board. Murphy et al. further teaches wherein said heat-containing element further comprises a printed circuit board (PCB) (Fig. 4, #11) comprising said heat sink. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat sink assembly within a potted housing of Prager et al. in view of Sloan with that of Murphy et al. for the purpose of having a board to provide the electrical connections using a printed circuit board.

With respect to Claim 4, Prager et al. further teaches wherein said PCB further comprises an integrated circuit (IC) (Col. 1, line 9, solid state devices) comprising said heat sink. While Prager et al. does fails to specifically teach ICs, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat sink assembly within a potted housing of Prager et al. in view of Sloan with that

of Murphy et al. for dissipating heat during operation of a heat-containing element including any solid state device or IC that needs to be cooled.

With respect to Claim 5, Prager et al. in view of Sloan in further view of Murphy et al. teach the heat sink assembly in the above claims. They do not teach type of circuit or the application of the housing. Sloan further teaches wherein said housing further comprises a housing (Fig. 3, #26) for a fuel pump (Col. 3, line 43). While they fail to teach the PCB comprises an oscillator circuit, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat sink assembly within a potted housing of Prager et al. in view of Sloan, in further view of Murphy et al. for the application to be a housing for a fuel pump or any other application requiring cooling and for PCB comprise an oscillator circuit or any other circuit that the fuel pump needs requires for operation.

Regarding method claims 15-17, the method steps recited in the claims are inherently necessitated by the device structure as taught by Prager et al., in view of Sloan and in further view of Murphy et al.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prager et al. (US 4,288,839) in view of Sloan (US 4,502,090) as applied to Claim 1, above, and further in view of Fairchild (US 6,618,255).

With respect to Claim 6, Prager et al. in view of Sloan teaches the heat sink assembly in claim 1, above. They do not teach the bracket is made of brass. Fairchild teaches said bracket is brass (Fig. 4, line 55, copper alloy). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat

sink assembly within a potted housing of Prager et al. in view of Sloan, with that of Fairchild to manufacture the bracket using a good thermal conducting material.

5. Claims 8-11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sloan (US 4,502,090), in view of Fairchild (US 6,618,255), and further in view of Prager et al. (US 4,288,839).

With respect to Claim 8, Sloan teaches a heat sink assembly (Fig. 4, #24) in a potted housing (Fig. 3, #26) for a fuel pump (Col. 3, line 43), comprising: a printed circuit board (PCB) (Fig. 4, #46) with a heat sink (Fig. 4, #44). Sloan does not teach a brass bracket and a self-tapping screw. Fairchild teaches a brass (Col. 4, line 55) bracket (Fig. 1A, #16) connected to an interior wall of said housing (Fig. 1A, #12). Prager et al. teaches a self-tapping screw (Fig. 3, #30, Col. 4, lines 46-47) threaded into said bracket (Fig. 3, #20), engaging said PCB (Fig. 4, #11), and urging said heat sink (Fig. 3, #36) against said bracket. With respect to Claim 11, Prager further teaches wherein said bracket is connected to said interior surface (see Fig. 3) with a fastener selected from the group including rivets and threaded fasteners (Fig. 3, #43). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat sink assembly of Sloan with that of Fairchild in further view of Prager et al. for the purpose of selecting good thermal conducting materials and fastening systems to maximize heat dissipation from a electronic component.

With respect to Claim 9, Sloan further teaches wherein said PCB further comprises an integrated circuit (IC) (Col. 1, line 9, solid state devices) comprising said heat sink. It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to modify the heat sink assembly of Sloan with that of Fairchild in further view of Prager et al. for the purpose of using an active electronic component to control the apparatus.

With respect to Claim 10, while Sloan in view of Fairchild in further view of Prager et al. fail to teach the circuit is an oscillator, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat sink assembly of Sloan with that of Fairchild in further view of Prager et al. for the purpose of incorporating an oscillator or any other circuit needed for operation of the fuel pump.

Regarding method claim 18, the method steps recited in the claims are inherently necessitated by the device structure as taught by Sloan, in view of Fairchild and in further view of Prater et al.

6. Claims 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sloan (US 4,502,090), in view of Fairchild (US 6,618,255), further in view of Prager et al. (US 4,288,839) and further in view of Murphy et al. (US 5,504,653).

With respect to Claim 12, Sloan teaches a heat sink assembly (Fig. 4, #24) in a potted housing (Fig. 3, #26) for an integral fuel pump (Col. 3, line 43). Sloan does not teach a brass bracket, a printed circuit board, a self-tapping screw and a rivet. Fairchild teaches a brass (Col. 4, line 55) bracket (Fig. 1A, #16) connected to an interior wall of said housing (Fig. 1A, #12). Murphy et al. teaches a rivet (Fig. 5, #41) connecting the bracket (Fig. 5, #13) to the housing (Fig. 5, #40) and a printed circuit board (PCB) (Fig. 5, #11) with a circuit (Fig. 5, #14) and a heat sink (Fig. 5, thinner cross-section of #14). Prager et al. teaches a self-tapping screw (Fig. 3, #30, Col. 4, lines 46-47) threaded into

said bracket (Fig. 3, #20), engaging said PCB (contains Fig. 3, #34), and urging said heat sink (Fig. 3, #36) against said brass bracket. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat sink assembly of Sloan with that of Fairchild in further view of Murphy et al., in further view of Prager et al. for the incorporating an oscillator circuit or any other type of circuit to control the fuel pump and for selecting good thermal conducting materials and fastening systems to maximize heat dissipation from a electronic component.

Regarding method claims 20, the method steps recited in the claims are inherently necessitated by the device structure as taught by Sloan, in view of Fairchild, in further view of Prater et al. and in further view of Murphy et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJH

BORIS CHÉRVINSKY
PRIMARY EXAMINER

12/21/5